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NATIONAL ENERGY BOARD  
REASONS FOR DECISION

In the Matter of an Application under  
the National Energy Board Act

of

FRASER INC.

October 1979





NATIONAL ENERGY BOARD

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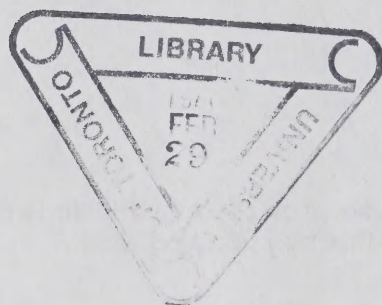
of

FRASER INC.

October 1979

Ce rapport est publié  
séparément dans les  
deux langues officielles





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ABBREVIATIONS USED IN THE REPORT

For Units of Measurement

Btu	:	British thermal unit
GW.h	:	gigawatt-hour
kV	:	kilovolt
kW.h	:	kilowatt-hour
m <sup>3</sup>	:	cubic metre
MW	:	megawatt

For Names

Act	:	National Energy Board Act
Applicant	:	Fraser Inc.
Board	:	National Energy Board
Fraser's	:	Fraser Inc.
Fraser Paper	:	Fraser Paper Limited
NBEP	:	The New Brunswick Electric Power Commission
NEB	:	National Energy Board
U.S.	:	
U.S.A.	:	United States of America

NATIONAL ENERGY BOARD

IN THE MATTER OF an application by Fraser Inc. for  
licences to export power under Part VI of the National Energy  
Board Act.

(File 1923-F4-5)

HEARD at Ottawa, Ontario on 18 September 1979.

BEFORE:

J.L. Trudel  
J. Farmer  
J.R. Hardie

Presiding Member  
Member  
Member

APPEARANCES:


John M. Hanson  
J.D. Legris

Fraser Inc.

Sandra Fraser

National Energy  
Board





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### BACKGROUND

The Applicant, Fraser Inc., formerly Fraser Companies Limited, is a Canadian company that was incorporated by Dominion Charter in 1917. The company operates about 1.8 million acres of woodlands, saw mills at Plaster Rock and Kedgwick and pulp mills at Atholville and Edmundston, all in northwestern New Brunswick.

Fraser Paper Limited, a wholly-owned subsidiary of Fraser Inc., was incorporated in 1925 under the laws of the Province of New Brunswick. Fraser Paper is authorized to conduct business in the State of Maine, U.S.A.; it operates paper mills in Madawaska, Maine, directly across the international boundary from Edmundston.

The mills on the two sides of the international boundary are operated as an integrated industrial unit. With the exception of a small amount used in the manufacture of boxboard, all the pulp produced at the Edmundston mill is piped in slush form to the paper mill in Madawaska. Electric power has been interchanged between the mills since the U.S. mill was built in 1926.

Fraser Inc. purchases most of the mills' power requirements from The New Brunswick Electric Power Commission. NBEPCC is the principal electrical utility in New Brunswick and is a crown corporation in the right of the province. It operates a power system that extends throughout the province and is interconnected with systems in Quebec, Nova Scotia, Prince Edward Island and Maine. In addition to the supply from NBEPCC, both the

Canadian and U.S. mills generate power in association with the production of process steam.

The Applicant has two international power lines connecting the Canadian and U.S. mills. The main line, authorized by Certificate of Public Convenience and Necessity EC-31, operates at 69 kV. The other line, authorized by Certificate EC-32, is rated 6.9 kV.

At present Frasers holds two licences authorizing the export of power over its international power lines. Licence EL-79 allows the export of up to 400 GW.h of firm energy in any consecutive twelve-month period at a rate not exceeding 60 megawatts. Licence EL-80 permits the export of up to 30 GW.h of interruptible energy in any consecutive twelve-month period. Both licences were issued following a public hearing in Fredericton on 4 December 1974, and both are due to expire on 31 December 1979.



THE APPLICATION

Frasers filed an application for licences to export power and energy at Edmundston from 1 January 1980 to 31 December 1989 as follows:

- I. Firm power not to exceed 400 GW.h in any consecutive twelve-month period at a rate not to exceed 60 megawatts.
- II. Interruptible energy not to exceed 30 GW.h in any consecutive twelve-month period at a rate not to exceed 5 megawatts.

At the hearing, the application was amended to increase the maximum interruptible exports to 50 GW.h in any consecutive twelve-month period at a rate not to exceed 8 megawatts.

The application also asked leave of the Board for the previous applications of 1960, 1965, 1970 and 1974, together with their related exhibits and testimony, to be received in evidence at the hearing. The Board granted this leave under Section 18(a) of the NEB Rules of Practice and Procedure.

THE EVIDENCE: EXPORT OF POWER AND ENERGY

The Applicant

A witness for the Applicant testified that Northwood Mills, which is a fully-owned subsidiary of Noranda Mines, holds about 55 per cent of the approximately seven million outstanding shares of Fraser Inc. Of the total shares of Fraser Inc., 99 per cent are held in Canada.

Annual sales during 1978 totalled about \$265 million, up from \$158 million at the time of the hearing in 1974. The witness stated that the main concentration of the company's production is at the Edmundston-Madawaska complex where about 80 per cent of the output is produced. He said that the Applicant is the only major employer in the communities of Edmundston and Madawaska. Edmundston's population is 14,000, and Madawaska's 6,000. Overall, the Applicant had an average of 3,500 employees during 1978, of which 850 were employed at Edmundston and 1,000 at Madawaska. Of the 1,000 employees in the U.S. mill, 150 are Canadians who commute daily from Edmundston. The total corporate payroll in 1978 was \$68 million of which \$45 million was spent in Canada.

The witness said that the Edmundston-Madawaska complex must be looked upon as an integrated unit because all the fiber which is produced in Edmundston, excepting a small amount used for boxboard, is pumped across the international boundary to Madawaska where it is made into paper. The paper mill was



originally constructed in Madawaska because there was a United States tariff on imported paper, but no tariff on imported pulp. He stated that the tariff still exists although it has been declining and is expected to decline further. He added that the integration of the Madawaska-Edmundston complex is such that if the Madawaska mill were shut down for lack of energy, the Edmundston mill would also have to cease operations, with disastrous effects on Edmundston and the northwestern part of New Brunswick.

#### The Power Supply

The evidence shows that the Applicant has about 22 MW of generation installed in the Edmundston mill, capable of producing 151 GW.h per annum. The average cost of this generation was stated to be 20.9 mills per kW.h. In the Madawaska mill there is a 10 MW generating unit with an annual output of about 69 GW.h. The average cost of production from this unit was estimated at 25 mills per kW.h. The details of the Applicant's generation are shown in Appendix 1.

The application includes a forecast of the peak load and energy requirements of each mill over the requested licence term. The load forecast is shown in Appendix 2. The portion of the power and energy requirements which cannot be supplied from generation in the mills is purchased from NBEPC. The requested licence limits are somewhat higher than the load shown for the paper mill to provide a contingency allowance.

The agreement between the Applicant and The New Brunswick Electric Power Commission is dated 2 December 1974 and is renewable from year to year. Under the agreement NBEPC reserves 54 megawatts of firm power for Frasers, with the provision that the amount of firm power may be increased or decreased at any time by mutual agreement. The power is delivered over a 138 kV transmission line owned by NBEPC. The line is currently operated at 69 kV. The contract between NBEPC and Frasers allows NBEPC to increase the supply voltage to 138 kV if the demand exceeds 60 megawatts. Testimony showed that no date has been determined for this upgrading but that it may be required as early as 1981. A witness for the Applicant said that the upgrading would be unnecessary if additional generation is installed in the paper mill. On the other hand, if the upgrade does take place, Frasers will have to install a 138/69 kV autotransformer at an estimated cost of \$1 million. The witness said that since the autotransformer would be required to support the export, its cost would be borne by Fraser Paper.

The current price paid by Frasers to NBEPC for firm power is based on a sliding scale of demand charges plus a sliding energy charge. The 1979 rates for firm power are shown in Appendix 3. A witness from Frasers testified that the purchased power currently costs an average of 26 mills per kW.h. He said that the purchase price of interruptible energy varies from hour-to-hour but has recently been around 20 mills per kW.h.



A witness from NBEPC who testified on behalf of the Applicant said that the rates charged to Fraser Inc. are the same as rates charged other large industrial customers in New Brunswick.

The NBEPC witness testified that his utility supported the application to export power to Fraser Paper. He said that NBEPC treats the load at Fraser Paper as if it were a New Brunswick load. The application includes a letter dated 23 February 1979 from the General Manager of NBEPC to the Applicant which supports the export application on the grounds that the continuing operation of the paper mill is beneficial to the provincial economy.

NBEPC provided forecasts of its monthly power and energy supply capability, load and surplus throughout the requested licence term. The estimates are summarized in Appendix 4. The NBEPC witness said that with the load growth shown in the forecast, there will be less than adequate reserves in the later years of the proposed term which will require additional generation on NBEPC's system. He testified that his utility was examining a variety of generation sources, one of which will be adopted if the forecast load growth materializes.

Cross-examination showed that NBEPC's forecast includes an allowance of 54 MW and 449 GW.h per year for the Edmundston-Madawaska complex. The NBEPC witness said that even if the load grows as indicated by the Applicant's estimates shown in Appendix 2, NBEPC would still be able to supply the mills because NBEPC's

forecast includes a contingency allowance for unallocated industrial growth.

The application includes letters from Nova Scotia Power Corporation, Maritime Electric Company Limited and Hydro-Québec to NBEPC which state that those utilities have no objections to the proposed export by Fraser Inc.

#### The Export Contract

The export from Fraser Inc. to its subsidiary, Fraser Paper would be made according to the contract between the two parties dated 11 May 1979. An amended contract, dated 11 October 1979, was filed with the Board subsequent to the hearing. The amendment adds a clause which provides that in the event additional transformation such as the 138/69 kV autotransformer discussed earlier is installed, the two parties will enter into a ten-year leasing arrangement under which Fraser Paper will assume the full costs of the upgrading.

The export contract is to become effective on 1 January 1980 and is to continue from year to year thereafter until cancelled by either party on 30 days written notice. The contract provides that Fraser Inc. will supply the power needs of Fraser Paper after satisfactory service of its own load. The price payable for both firm and interruptible energy is to be determined according to the formula:

$$P_{ex} = (N + 0.9523A) \frac{100 + P}{100}, \text{ where}$$

$P_{ex}$  is the export price in mills per kW.h,  $N$  is the monthly average price paid to NBEPC by Fraser Inc. for firm power in



mills per kW.h, A is the federal import compensation payment on imported crude oil in dollars per barrel and P is an allowance for overhead, service and transmission losses. P is fixed at 7.5.

The factor 0.9523A is designed to recover the subsidy paid to importers of oil by the Federal government. It is derived from the heat rate associated with NBEPC's oil-fired generators used to generate a portion of the export, the heating value of a barrel of oil, and the percentage of oil-fired generation which is included in the export. The generator heat rate and the heating value of the oil were estimated by the Applicant at 10,000 Btu per kW.h and 180,000 Btu per gallon respectively. The NBEPC witness confirmed that these are reasonable values and accurately reflect the parameters of the NBEPC system as they will be throughout the proposed licence term.

The proportion of oil-generated energy in the export supply was set by the Applicant at 60 per cent at the time of the application. Using this figure, the factor 0.9523 is derived as follows:

$$\frac{60}{100} \times 10,000 \frac{\text{Btu}}{\text{kW.h}} \times \frac{1}{180,000} \frac{\text{gallons}}{\text{Btu}} \times \frac{1}{35} \frac{\text{barrels}}{\text{gallon}} \times 1,000 \frac{\text{mills}}{\$}$$
$$= 0.9523 \text{ mills/kW.h per \$/barrel}$$

A witness for the Applicant stated that Fraser Inc. was not entirely satisfied with the assumption that 60 percent of the

export energy would come from oil-fired generation. He stated that on average, about 60 per cent of NBEP's own exports come from oil-fired generation but the energy supplied to NBEP's domestic customers comprises only about 30 per cent oil-generated energy. He said that the Applicant would prefer that the formula use the 30 per cent rather than the 60 per cent. The witness from NBEP confirmed that 30 per cent is an approximately correct figure if one regards only the domestic supply. Under cross-examination he stated that NBEP produces a report shortly after the end of each month which details the amounts of oil and other fuels used during the month. The report for the month of July 1979 is reproduced as Appendix 5. He said that NBEP is prepared to make copies of this report available to the Applicant every month. This would allow the Applicant to calculate the factor which relates to the oil subsidy on a monthly basis using the actual proportion of oil reported by NBEP.

#### Alternatives to the Export

The Applicant suggested two possible alternatives to the export. The first would be to add generation in the paper mill and the second would be to purchase the required power from Maine Public Service Company.

The application includes estimates of the cost of installing and operating a 20 megawatt back-pressure set which would replace the existing 10 megawatt unit in the paper mill. As this would add only 10 megawatts of new generation, the Board



asked the Applicant for cost estimates for an amount of generation which would be more representative of the proposed export. The Applicant replied that the least expensive addition would be a combined-cycle plant but that installing such generation would be contingent on the availability of a suitable fuel such as coal or natural gas. The lead time required for such an installation was estimated at seven or eight years and its cost was estimated to be roughly in the order of \$1,000 per kilowatt.

The Vice-President of Engineering and Operations of Maine Public Service Company testified at the hearing on behalf of the Applicant. He stated that Maine Public Service is the principal utility in Aroostook County in which Madawaska is located. Maine Public Service Company's present generating capacity is 136 megawatts. The peak load in 1978 was 104 MW.

The witness said that his company could not supply Fraser Paper from its existing or planned generation. The power would have to be purchased either from utilities in New England or from NBEPC. The application includes a letter dated 14 March 1979 to the Applicant from Maine Public Service Company which mentions the possibility of purchasing supplies for the paper mill from two generating stations which are now being planned for construction in the United States. The letter stated that neither plant is expected to be in service before 1986.

The witness stated that purchases from New England would require reinforcement of his company's transmission system in

order to transmit the power to Madawaska. He said that another problem in supplying a load the size of the paper mill is that it would completely upset his company's rate structure.

Witnesses for the Applicant stated that there are no firm plans to install generation in either mill and no contingency plans in the event the export is not approved. It was stated that if the licence is not granted, both the Edmundston and the Madawaska mill will have to cease operations.

#### Environmental Impact

The application includes a summary and the results of a study carried out by NBEPC to assess the environmental impact of the proposed export. The study states that the results of the calculations indicate that the 60 MW export will not cause the maximum impact of sulphur dioxide, suspended particulates, or nitrogen oxides to exceed the Environment Canada guidelines for maximum desirable impacts over the proposed ten year term.

#### INTERVENTIONS

No interventions were received in respect of this application.



### DISPOSITION

The Board has given careful consideration to all the evidence and submissions presented.

#### Application

Section 83 of the Act requires the Board, in examining an application for an export licence, to have regard to all considerations that appear to it to be relevant. Without limiting the generality of the foregoing, the Board is required to satisfy itself that the power to be exported is surplus to reasonably foreseeable Canadian requirements and that the price to be charged is just and reasonable in relation to the public interest.

#### Surplus

The power and energy supply-demand balances provided by NBEPC show that with the present load forecast and with existing and new generation which is already in an advanced stage of construction, the power and energy proposed for export will be surplus during the first eight years of the proposed licence term. As viewed today the situation in the last two years does not show a surplus, and as the applicant expressed no compelling reason why a ten-year term was needed, the Board would limit the term of any licence to eight years.

As the existing and previous licences held by Frasers were for only five years, a term of eight years should impose no

hardship on the Applicant. Indeed, in light of the evidence that the U.S. import duty on paper has already declined and is expected to decline further, a shorter licence period is desirable to allow earlier reassessment of whether any possible future expansion of the paper-making facilities could not economically be located in Canada. Furthermore, the evidence that the Applicant is studying the possibility of adding generation in the paper mill also makes a shorter licence period desirable.

For these reasons, and knowing that the utilities in Prince Edward Island, Nova Scotia and Quebec were offered the power proposed for export and indicated no interest in it, the Board is satisfied that this power will be surplus to reasonably foreseeable Canadian requirements for eight years, namely from 1 January 1980 to 31 December 1987.

#### The Export Price

The export price formula, by which the price for both firm and interruptible exports would be calculated, comprises three components. These are: the monthly price to be paid by the Applicant for the power and energy, an oil subsidy recovery factor, and a mark-up to recover overhead and losses.

The oil subsidy recovery factor is designed to ensure that the federal oil subsidy is not passed along to the export customer. The Applicant's derivation of this factor is based on four quantities. These are: the heat rate associated with NBEPC's oil-fired generators, the heating value of a barrel of oil, the proportion of the export generated from oil, and the federal oil import compensation payment. Testimony of the NBEPC



witness indicates that the Applicant's proposed values of 10,000 Btu per kW.h for the generator heat rate and 180,000 Btu per gallon for the heating content of oil accurately reflect the parameters of the NBEPC system. The Board is of the opinion that these two components of the formula are reasonable.

Witnesses for the Applicant contended that the proportion of oil-generated energy used in deriving the oil subsidy recovery factor should relate to the percentage of oil-generated energy in NBEPC's domestic supply rather than in its exports. The witness from NBEPC agreed with the Applicant's position and stated that NBEPC would be willing to supply the actual figure each month for the Applicant's use. The Board agrees that the use of the domestic percentage is reasonable in this case and would modify the proposed formula accordingly.

The final component of the proposed oil subsidy recovery factor is the federal oil compensation payment. The witness from NBEPC stated that his utility repays the federal oil subsidy on certain of its own exports from oil-fired generation. He said that the repayments are calculated using an average figure for the oil import compensation payments which is obtained each month from the federal government. It would be entirely appropriate for Frasers to use the same figure in its formula. However, the formula as proposed uses this figure expressed in dollars per barrel. It would be preferable if this payment were expressed in dollars per cubic metre.

The oil subsidy recovery factor proposed in the application is 0.9523A mills per kW.h. When the percentage of oil-generated energy, which was set at 60 per cent, is redefined as a variable B, and the federal subsidy is expressed in dollars per cubic metre, the factor becomes  $0.002523AB^{(1)}$  mills per kW.h.

The price formula would then become:

$$P_{ex} = (N + 0.002523AB) \frac{100 + P}{100}$$

To assess the suitability of an export price the Board has developed three criteria. Briefly stated, these are that the export price shall recover the costs incurred in Canada, that it shall not be less than the cost for equivalent service to Canadians, and that it shall not result in prices in the export market which are materially less than the least cost alternative.

The costs incurred in Canada include the price paid to NBEPC for the purchased power, the federal oil subsidy, and the losses and overhead expenses of the Applicant incurred in making the export. Prices calculated according to the modified formula will clearly recover all of these costs.

Another cost which will likely be incurred by the Applicant is that associated with installing the additional 138/69 kV transformation which may be required within a few years. The export contract provides that if the transformation is required, its costs will be recovered by the Applicant through a leasing arrangement with Fraser Paper. Without examining the actual leasing agreement the Board is unable to judge its

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(1)  $0.9523 \times \frac{1}{60\%} \times 0.15899 \frac{\text{m}^3}{\text{barrel}} = 0.002523 \text{ mills/kW.h per } \$/\text{m}^3 \text{ per}$



particulars, but in this case the arrangement is acceptable in principle. The Board would condition any licence to require the applicant to submit the leasing agreement for the Board's approval.

With the above condition, and the modified export price formula, the Board is satisfied that the requirements of the first test will be met.

In regard to the Board's second test, the evidence shows that the rates charged Fraser Inc. by NBEPC are the same as are charged to other industries in the province of New Brunswick. From the foregoing, the proposed price meets the Board's second requirement.

In regard to the Board's third test, there appears to be no alternate source of supply which could be operational by the time the export is due to commence. The third test is generally applied to ensure that an export price is appropriate when measured against prevailing energy prices in the export market. In this case the export is to be made by a Canadian company to a wholly-owned subsidiary operating in the U.S. Here, the benefit to Canada arises from the economic well-being of the Applicant, to which the successful operation of the Madawaska-Edmundston complex is crucial, rather than from profits associated with the export itself.

From the foregoing, the Board concludes that the export price formula, as modified, will result in export prices which are just and reasonable in relation to the public interest.

Environmental Effect of the Export

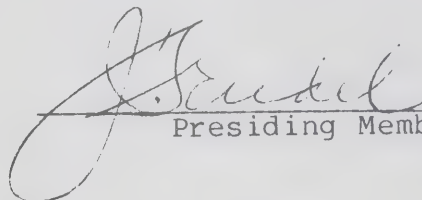
The environmental study by NBEPC included in the application indicates that the generation of the export power will not cause the desirable impact guidelines established by Environment Canada to be exceeded. The Board is satisfied that the export will have no unacceptable environmental effect.

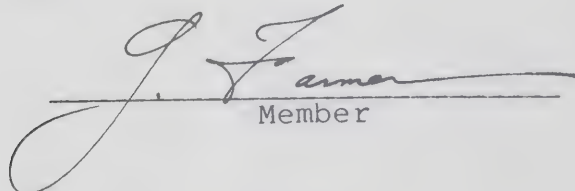
The Board's Finding

The Board, having satisfied itself that the power and energy to be exported are surplus to foreseeable Canadian requirements, and that the method of calculating the price to be charged is just and reasonable, and having had regard to all other considerations that appear to it to be relevant, is prepared to grant the application in part by issuing to Fraser Inc. two export licences with terms of eight years under Part VI of the Act. Applicable terms and conditions for the licence for firm power are set out in Appendix 6. Applicable terms and conditions for the interruptible licence are set out in Appendix 7.

The Applicant requested a limit of eight megawatts to be associated with interruptible exports. Since it is the Board's practice to limit interruptible exports in terms of energy only, Appendix 7 includes no such limitation.

The foregoing constitutes the Board's reasons for decision and the Board's finding on this matter.

  
Presiding Member

  
Member

  
Member





## Appendix 1

FRASER INC.IN-PLANT GENERATION AT EDMUNDSTON AND MADAWASKA

	Maximum Power (MW)	Annual Energy (GW.h)
Edmundston		
Thermal unit 1	3.5	13
2	3.5	17
3	14.0	116
Hydro units 1 & 2	1.4	5
Sub totals	<u>22.4</u>	<u>151</u>
Madawaska		
Thermal unit 4	10.0	69
Totals	<u>32.4</u>	<u>220</u>





## Appendix 2

FRASER INC.LOAD AND SUPPLY

<u>YEAR</u>	<u>LOAD</u>			<u>SUPPLY</u>	
	<u>Pulp Mill</u>	<u>Paper Mill</u>	<u>Total</u> <sup>(1)</sup>	<u>In-Plant Generation</u>	<u>NBEP</u>
ANNUAL PEAK (MW)					
1980	47.7	45.9	93	32	61
1981	48.4	46.5	93	32	61
1982	49.2	47.4	96	32	64
1983	50.0	48.0	98	32	66
1984	50.7	48.4	98	32	66
1985	51.4	51.2	100	32	68
1986	52.3	52.0	100	32	68
1987	52.9	52.8	102	32	70
1988	53.8	53.6	104	32	72
1989	54.7	54.4	106	32	74
ANNUAL ENERGY (GW.h)					
1980	360	360	720	220	500
1981	365	365	730	220	510
1982	371	371	742	220	522
1983	377	376	753	220	533
1984	382	380	762	220	542
1985	388	386	774	220	554
1986	394	392	786	220	566
1987	400	398	798	220	578
1988	405	404	809	220	589
1989	412	410	822	220	602

(1) The total annual peak is the coincident peak of the two mills.



RATE SCHEDULE: NBEPC LARGE INDUSTRIAL POWER

(as of April 1979)

Monthly Demand Charge

\$6.01 per kW for the first 2,500 kW of demand

\$5.46 per kW for the next 5,000 kW of demand

\$4.80 per kW for the balance of demand

Monthly Energy Charge

22.4 mills per kW.h for the first 900,000 kW.h

20.1 mills per kW.h for the next 1,800,000 kW.h

18.5 mills per kW.h for the balance





THE NEW BRUNSWICK ELECTRIC POWER COMMISSIONDEPENDABLE SUPPLY, LOAD AND SURPLUS

<u>YEAR</u>	<u>SUPPLY</u>	<u>FIRM LOAD</u> <sup>(1)</sup>	<u>SURPLUS</u> <sup>(2)</sup>
<u>DECEMBER PEAK (MW)</u>			
1980	2557	2051	506
1981	2957	2166	791
1982	2957	2271	686
1983	2957	2365	592
1984	2957	2463	494
1985	2957	2369	588
1986	2957	2276	681
1987	2957	2383	574
1988	2957	2498	459
1989	2957	2618	339

ANNUAL ENERGY (GW.h)

1980	15508	11854	3654
1981	15927	12280	3647
1982	18379	12817	5562
1983	18378	13296	5082
1984	18428	13783	4645
1985	18376	14035	4341
1986	18616	13015	5601
1987	18617	12246	6371
1988	18667	12793	5874
1989	19113	13359	5754

(1) The load consists of the total firm load in New Brunswick and committed firm sales to Hydro-Québec and Maine Public Service Company. The latter sale is licensed by the Board. The firm load in New Brunswick includes an allowance of 54 MW and 449 GW.h per year for Fraser's Madawaska-Edmundston complex.

(2) The surplus includes reserve.





# THE NEW BRUNSWICK ELECTRIC POWER COMMISSION

## INTERNAL CORRESPONDENCE

Appendix 5

Energy Control Center  
Marysville, New Brunswick  
E3B 4X1

August 20 , 1979

PLEASE REFER TO OUR FILE NUMBER. ....

MEMO TO: W. A. Patterson  
Manager of System Operations

SUBJECT: Generation Used to Meet NB Power In-Province for  
Month of July, 1979

\*\*\*\*\*

Plant	Generation MWHRS	Generated For Export MWHRS	Used For NB In-Province MWHRS	% of NB Load
Hydro	125,392.4	0	125,392.4	23.2%
Purchased	318,298.8	7,276	311,022.3	57.5%
Grand Lake	36,985.0	4,777.0	32,208.0	6.0%
Chatham	0	0	0	0
Courtenay Bay	67,556.0	15,135.0	52,421.0	9.7%
Dalhousie	62.0	0	62.0	0
Coleson Cove	308,492.0	*290,293.0	18,199.0	3.4%
Moncton Jet	0	0	0	0
Grand Manan Diesel	1,178.2	0	1,178.2	0.2%
Total:	857,963.9	317,481.0	540,482.9	

Hydro Supplied 23.2% of NB In-Province Load.  
Purchases supplied 57.5% of NB In-Province Load.  
Thermal Coal Supplied 6.0% of NB In-Province Load.  
Thermal Oil supplied 13.3% of NB In-Province.

NB In-Province Load includes Station Service, Transformer and Transmission losses.

\*Includes Station Service associated with Coleson Cove Participation energy to MEPCO.

*L. C. Madsen*

L. C. Madsen  
Billing & Contract  
Administrator



TERMS AND CONDITIONS OF LICENCE  
FOR THE EXPORT OF FIRM POWER  
FRASER INC.

1. The term of this licence shall commence on the 1st day of January 1980 and shall end on the 31st day of December 1987.
2. The power to be exported by the Licensee hereunder shall be a sale transfer of firm power to be transmitted over the international power lines authorized by Board Certificates of Public Convenience and Necessity numbered EC-31 and EC-32.
3. The quantity of power that may be exported by the Licensee hereunder shall not exceed 60 megawatts.
4. The quantity of energy that may be exported by the Licensee hereunder shall not exceed 400 million kilowatt-hours in any consecutive twelve-month period.
5. As a tolerance the Licensee may export power at a rate momentarily in excess of that set forth in Condition 3 if such excess is caused by
  - (a) electrical short circuit or other uncontrollable circumstances, or
  - (b) inability to control precisely the actual rate of transfer.
6. The Licensee shall charge for energy exported hereunder a price in mills per kilowatt-hour not less than,
  - (a) the price determined monthly by the formula

$$\text{Price} = (N + 0.002523AB) \times \frac{(100 + P)}{100}$$

where, during the month for which the determination is being made,

N is the average price expressed in mills per kilowatt-hour that The New Brunswick Electric Power Commission (NBEPC) charged the Licensee for firm power,

A is the federal oil compensation payment expressed in dollars per cubic metre that NBEPC used, or would have used, to calculate repayments of the federal oil subsidy for its own exports generated from oil,

B is the proportion of energy used to supply the in-province load by NBEPC which was generated from imported oil, expressed as a percentage, and



P is the Licensee's percentage mark-up on the energy exported, which mark-up shall be no less than 7.5 per cent, or

(b) such other price as the Board may from time to time determine.

7. The Licensee, as soon as possible after the end of each month throughout the term of this licence, shall file with the Board a report in such form and detail as the Board may specify, setting forth for the month just ended
  - (a) the quantities of electric power and energy exported hereunder.
  - (b) the values of N, A, B and P referred to in Condition 6,
  - (c) a copy of the report provided by NBEPC showing the sources of generation used to meet the in-province load,
  - (d) the calculation of the price in mills per kilowatt-hour in accordance with Condition 6, and,
  - (e) the resulting revenue.
8. The Licensee shall not, without the prior approval of the Board, amend, enter into any agreement in substitution for or in addition to, or terminate, the agreement dated 11 October 1979 between Fraser Inc. and Fraser Paper Limited.
9. The Licensee shall inform the Board promptly in the event of any change in, or any agreement additional to, its power supply agreement dated 2 December 1974 with The New Brunswick Electric Power Commission.
10. In the event that The New Brunswick Electric Power Commission increases the voltage at which it supplies the Licensee, thus necessitating the installation of additional transformation by the Licensee, the Licensee shall forthwith notify the Board and shall enter into an agreement with Fraser Paper Limited whereby the costs associated with the additional transformation shall be recovered by the Licensee. The Licensee shall file an executed copy of the agreement for the Board's approval.

TERMS AND CONDITIONS OF LICENCE  
FOR THE EXPORT OF INTERRUPTIBLE ENERGY  
FRASER INC.

1. The term of this licence shall commence on the 1st day of January 1980 and shall end on the 31st day of December 1987.
2. The energy to be exported by the Licensee hereunder shall be a sale transfer of interruptible energy, transmitted over the international power lines authorized by Board Certificates of Public Convenience and Necessity numbered EC-31 and EC-32.
3. The quantity of energy that may be exported by the Licensee hereunder shall not exceed 50 million kilowatthours in any consecutive twelve-month period.
4. The Licensee shall not export energy hereunder unless it is surplus to the firm energy requirements of economically accessible Canadian markets at the time it is exported.
5. The Licensee shall interrupt or reduce the power associated with the energy to be exported hereunder whenever, or to whatever extent, such power is required by the Licensee or by interconnected systems to supply firm loads within Canada.
6. The price to be charged by the Licensee for energy exported hereunder shall not be less than the greater of
  - (a) the price paid by the Licensee to The New Brunswick Electric Power Commission for the interruptible energy being exported, or
  - (b) the export price charged by the Licensee during the same month for firm power exported under the licence issued pursuant to Appendix 6 of this report.
7. The Licensee, as soon as possible after the end of each month throughout the term of this licence, shall file with the Board a report in such form and detail as the Board may specify, setting forth for the month just ended
  - (a) the quantities of electric energy exported hereunder, and
  - (b) the resulting revenue.









